

Serial No. 09/624,337

**IN THE CLAIMS:**

The text of all pending claims are set forth below. Cancelled claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strike through~~. The status of each claim is indicated with one of (original), (currently amended), (previously presented), (cancelled), (withdrawn), or (new).

Please AMEND the claims in accordance with the following:

1-55. (Cancelled)

56. (Currently Amended) A content push service system for push-distribution of content to subscribers to the service comprising: where a plurality of data-content servers, at least one agent unit, and a plurality of user terminals of the subscribers, all are connected to a network using an Internet protocol, ~~wherein~~ where each of the data-content servers is configured to store information-respective content and to push-transmit update information related to updating of ~~the information-its content~~ to the at least one agent serving as a substitute for the user terminals connected via the network, the push-transmit being responsive to the ~~information-content~~ having been updated in the data-content server; the system comprising:

the at least one agent unit, which is configured to receive the update information and to transmit via the network the update information to one or more of the user terminals if the update information relates to information-content that has been registered in the at least one agent unit as being requested by the users of the one or more of the user terminals; and where the one or more of the user terminals are configured to receive the update information transmitted from the at least one agent unit and to obtain the information-content updated.

57. (Currently Amended) The content push service system according to claim 56, wherein the one or more of the user terminals are configured to access via the network the data-content server which has transmitted the update information so as to obtain the information content updated.

Serial No. 09/624,337

58. (Currently Amended) The content push service system according to claim 56, wherein the at least one agent comprises a plurality of subagents in a subnetwork connected to the network, and the user terminals register themselves into the subagents, and each of the subagents serves as a substitute of corresponding user terminals of the user terminals, the corresponding user terminals that have registered themselves into the each of the plurality of subagents.

59. (Currently Amended) The content push service system according to claim 58, wherein a representative agent is provided between the network and the subnetwork, and the representative agent relays between the data-content servers and at least one of the subagents and between the user terminals and at least one of the subagents.

60. (Currently Amended) The content push service system according to claim 56, wherein  
the at least one agent is locally connected to at least one provider connected to the network,  
the user terminals are connected to the at least one provider, and  
the data-content servers transmit the update information or the information-content updated to the at least one agent via the at least one provider, and the at least one agent transmits at least one of the update information and the information-content updated to the user terminals via the at least one provider.

61. (Currently Amended) The content push service system according to claim 60, wherein  
the at least one provider comprises a plurality of providers having a hierarchical relationship among each other, and each including the at least one agent,  
the user terminals and a lower agent of the agents that is directly connected to a lower provider in a hierarchy lower than a hierarchy of an upper provider of the providers register information about the user terminals and about which information is requested into an upper agent connected directly to the upper provider, and  
the upper agent transmits, to the lower agent connected to lower user terminals of the user terminals, the lower user terminals that have requested at least one of the update

Serial No. 09/624,337

information and the ~~information-content~~ updated, the update information updated transmitted from the ~~data-content~~ servers.

62. (Currently Amended) The content push service system according to claim 56, wherein the at least one agent transmits via another network different from the network at least one of the update information and the ~~information-content~~ updated, to the user terminals registered.

63. (Currently Amended) The content push service system according to claim 56, wherein

the at least one agent has a table listing ~~data-content~~ servers that provide ~~information-content~~, and

when the at least one agent is notified by a ~~data-content~~ server not registered in the table that the ~~information-content~~ is going to be provided from the ~~data-content~~ server the at least one agent registers the ~~data-content~~ server into the table.

64. (Currently Amended) The content push service system according to claim 56, wherein

the at least one agent further has ~~data-content~~ type management information for managing the information per ~~data-content~~ type, and

when the at least one agent receives a notification made by one of the ~~data-content~~ servers about what kind of management is carried out on the ~~information-content~~ managed by the one of the ~~data-content~~ servers, the at least one agent adds or deletes the one of the ~~data-content~~ servers from the ~~data-content~~ type management information based on the notification.

65. (Currently Amended) The content push service system according to claim 64, wherein when the at least one agent receives a notification made by one of the ~~data-content~~ servers about addition or deletion of ~~information-content~~ of a ~~data-content~~ type of the ~~information-content~~ managed by the one of the ~~data-content~~ servers, the at least one agent adds or deletes the ~~data-content~~ server/servers related to the ~~data-content~~ type to or from the ~~data-content~~ type management information.

Serial No. 09/624,337

66. (Currently Amended) The content push service system according to claim 64, wherein when the information of the ~~data-content~~ type of the information managed by the at least one agent is changed the at least one agent notifies the user terminals of the change.

67. (Currently Amended) The content push service system according to claim 66, wherein

the at least one agent manages the ~~data-content~~ types such that the ~~data-content~~ types have a hierarchical relationship among each other, and

when information of one of the ~~data-content~~ types is changed the at least one agent notifies of the change to a user terminal of the user terminals which has been registered to receive a lower ~~data-content~~ type having a hierarchy lower than a hierarchy of the one of the ~~data-content~~ types changed.

68. (Currently Amended) The content push service system according to claim 56, wherein

the at least one agent accesses via the network the ~~data-content~~ server which has transmitted the update information so as to obtain the ~~information-content~~ updated and transmits via the network the ~~information-content~~ updated to the one or more of the user terminals, and

the user terminals are configured to receive the ~~information-content~~ updated from the at least one agents so as to obtain the ~~content~~information updated.

69. (Currently Amended) The content push service system according to claim 56, wherein

each of the ~~data-content~~ servers transmits the ~~content~~information updated instead of the update information to the at least one agent,

the at least one agent receives the ~~information-content~~ transmitted by the ~~data-content~~ servers, and if the ~~content~~information received has been registered in the at least one agent as requested ~~content~~information requested by one or more of the user terminals, transmits the ~~content~~information received to the one or more of the user terminals via the network, and

the one or more of the user terminals receive the ~~information-content~~ transmitted by the at least one agent so as to obtain the ~~information-content~~ updated.

Serial No. 09/624,337

70. (Currently Amended) A content push service processing method for use with push-distribution of content to subscribers to the content push service, comprising:

- registering information about a user terminal of a subscriber connected to a network using an Internet protocol and information-content requested by the user terminal into an agent which is connected to the network and serves as a substitute for the user terminal;
- push-transmitting, from a data-content server which is connected to the network and stores contentinformation, update information related to updating of the data-content server's information-content responsive to detection of the information-content having been updated in the data-content server, to the agent via the network;
- transmitting from the agent the update information to the user terminal via the network if the update information has been requested as indicated by the registering of information about the user terminal; and
- receiving at the user terminal the update information transmitted from the agent and obtaining at the user terminal the information-content updated via the network.

71. (Currently Amended) The push service processing method according to claim 70, wherein the user terminal accesses the data-content server via the network so as to obtain the contentinformation updated.

72. (Currently Amended) The push service processing method according to claim 70, wherein the agent transmits via another network different from the network at least one of the update information and the contentinformation updated, to the user terminal registered.

73. (Currently Amended) The push service processing method according to claim 70, wherein

- the agent has a table listing data-content servers that provide informationcontent, and
- when the agent is notified by a data-content server not registered in the table that the information-content is going to be provided from the data-content server the agent registers the data-content server into the table.

Serial No. 09/624,337

74. (Currently Amended) The push service processing method according to claim 70, wherein

the agent further has ~~data-content~~ type management information for managing the ~~information-content~~ per ~~data-content~~ type, and

when the agent receives a notification made by the ~~data-content~~ server about what kind of management is carried out on the ~~information-content~~ managed by the ~~data-content~~ server, the agent adds or deletes the ~~data-content~~ server from the ~~data-content~~ type management information based on the notification.

75. (Currently Amended) The push service processing method according to claim 70, wherein when the agent receives a notification made by the ~~data-content~~ server about addition or deletion of ~~information-content~~ of a ~~data-content~~ type of the information managed by the ~~data-content~~ server, the agent adds or deletes the ~~data-content~~ server or ~~data-content~~ servers related to the ~~data-content~~ type to or from the ~~data-content~~ type management information.

76. (Currently Amended) The push service processing method according to claim 70, wherein when the ~~information-content~~ of the ~~data-content~~ type of the information managed by the agent is changed the agent notifies the user terminal of the change.

77. (Currently Amended) The push service processing method according to claim 76, wherein

the agent manages the ~~data-content~~ types such that the ~~data-content~~ types have a hierarchical relationship among each other, and

when ~~information-content~~ of one of the ~~data-content~~ types is changed the agent notifies of the change to the user terminal which has been registered to receive a lower ~~data-content~~ type having a hierarchy lower than a hierarchy of the one of the ~~data-content~~ types changed.

78. (Currently Amended) The push service processing method according to claim 70, wherein the agent accesses the ~~data-content~~ server via the network so as to obtain the ~~information-content~~ updated, and the user terminal receives from the agent the update information and the ~~information-content~~ updated.

Serial No. 09/624,337

79. (Currently Amended) The push service processing method according to claim 70, comprising:

transmitting from the ~~data-content~~ server the ~~content~~information updated instead of the update information to the agent;

receiving at the agent the ~~information-content~~ transmitted by the ~~data-content~~ server, and if the ~~information-content~~ received has been registered in the agent as requested information requested by the user terminal, transmitting from the agent the ~~information-content~~ received to the user terminal via the network, and

receiving at the user terminal the ~~information-content~~ transmitted by the agent so as to obtain the ~~information-content~~ updated.

80. (Previously Presented) A network-based push processing intermediary agent in a volatile or nonvolatile storage, the intermediary agent configured to perform a process, the process comprising:

receiving over the network at the intermediary agent registrations from clients, the registrations indicating different types of information of interest to different clients, whereby a client registers with the intermediary agent its respective information type;

at the intermediary agent, receiving update notices pushed over the network from the information servers, where the update notices are pushed from the information servers responsive to such servers having detected that their served information has been updated, and where the update notices indicate respective types of information updated at the information servers;

receiving the update notices at the intermediary agent and using the update notices and the prior registrations to determine which clients are to be notified of which information server updates; and

at the intermediary agent, notifying the determined clients of the relevant updates at the information servers, whereby update detection on the information servers causes clients to be notified of updates without requiring the clients to first send information requests to the information servers.